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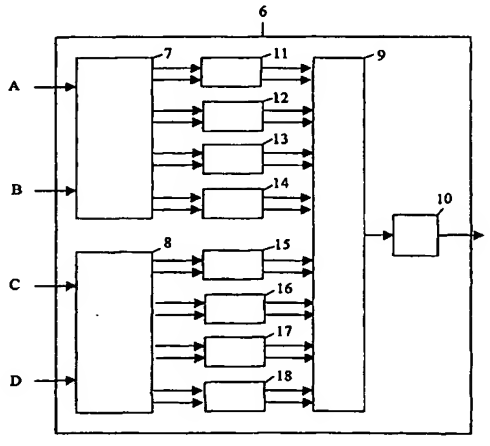
(54) Title: OPTICAL DISK SYSTEM WITH DELAYLINELESS DELAY-DIFFERENCE DETECTOR



(57) Abstract: Optical disk systems comprising photo detectors (1) for detecting optical disks comprising amplifiers and slicers (2-5) and delay-difference detectors (6) for detecting delay differences in sliced amplified detection signals are improved by installing delaylineless delay-difference detectors (6) comprising combinatorial-logic circuits (7,8) like inverters, ORs, NORs, ANDs, NANDs and sequential-logic circuits (11-18) like SetResetFlipFlops. Without the prior art delay lines, said delay-difference detectors (6) are of a lower complexity and low costly and can be well integrated. By introducing a first pair of sequential-logic circuits (11,12,15,16) for detecting delay differences between rising edges and a second pair of sequential-logic circuits (13,14,17,18) for detecting delay differences between falling edges, both kinds of edges are being used and the influence of time-jitter is less compared to the situation where just one kind of edge is used. Said delay-difference detector (6) further comprises an analog adder/subtracter (9) for adding/subtracting sequential-logic circuit output signals and low pass filter(s) (10) located before or after said adder/subtracter (9).

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